SCHOOL-BASED SUICIDE PREVENTION

BACKGROUND

In 1997, suicide was the third leading cause of death for persons aged 10 to 24. Increases in youth suicide completion rates over the past few decades, and annual survey data that indicate that up to 7 percent of high school youth have attempted suicide, have prompted a number of calls by public health officials to improve efforts to prevent and treat suicidal behaviors in youth. Most recently, the Office of the Surgeon General issued a "Call to Action to Prevent Suicide" [see http://www.sg.gov/library/calltoaction/default.htm]. This call recognizes the advances in understanding the potential precursors and risk factors for youth suicidal behavior, specifically mental and substance use disorders (SUD includes both substance dependence and substance abuse). Increased knowledge about precursors for completed adolescent suicides has come from several controlled psychological autopsies. For adolescent males, comorbid conduct disorder, mood disorder and SUD are among the most common diagnoses. For adolescent females, mood disorders predominant, with lower rates of comorbid SUD and conduct disorder compared to male suicide decedents. Epidemiologic studies of suicidal youth have also identified co-occurring mood disorders, SUD, and stressful life events as risk factors for suicidal behaviors.

Certain subpopulations of youth are known to have greater risk for suicidal behavior. American Indian and Alaskan Native male youth have suicide rates that are ten times the U.S. average. However, there is substantial variation in suicide rates and various risk factors, such as SUD, by tribe. African American male youth had historically low suicide rates. However, between 1980 and 1996 their rates doubled, approximating the rates of their white counterparts. Recent school shootings and subsequent suicidal behavior by perpetrators have resulted in the U.S. Department of Education assisting schools to prepare for crisis situations, including early identification of behaviors or "warning signs" among youth at risk [see http://www.ed.gov/offices/OSERS/OSEP/earlywrn.html]. Many of the early warning signs for later violent behavior have also been found to be correlates and precursors of suicidal behavior. Runaway and homeless youth, for instance, are at greater risk for suicidal behavior relative to their counterparts who attend school.

THE ISSUE OF PREVENTION

Defining three general classes of prevention strategies:

"Universal" prevention strategies are targeted at the entire population. This blanket approach increases the likelihood that alL at-risk persons will be "inoculated" by the prevention activity, but on a mass level it is difficult to control how much "prevention dose" each subject receives. The mass approach may also be more expensive than the alternatives. Any prevention strategy should clearly outweigh the costs and risks of implementing that strategy. This requirement is true for all three types of prevention strategies, but the burden of showing this positive balance is greatest for the "universal" group, because the costs are often high and the risks are often ignored.

"Selective" prevention strategies are targeted at specific subgroups who are known or thought to be at elevated risk for suicidal behavior. "Selective" strategies tend to address the risk factor(s) defining the subgroup at risk, directly or indirectly. A direct strategy might involve intervening to lower depression severity for a subgroup of youth who qualified for a diagnosis of major depression. An indirect strategy might involve offering support and education to a gay/lesbian/bisexual youth who was thought to be at risk by virtue of his/her sexual orientation and/or the environmental response to his lifestyle.

"Indicated" prevention strategies are targeted at individuals known or suspected to be at high risk for suicide. This

approach presumes that tools exist for identifying individuals at high risk with good sensitivity and specificity (i.e., not many "false positive" or "false negatives").

The school is a logical and natural site for instituting preventive models to address public health problems of youth: student attention is held relatively captive, teaching and learning are normative tasks, and peer interaction can be mobilized around a common theme (Berman and Jobes, Kravitz & Clark 1991:Ch.6). School-based programs are the most efficient means for reaching the greatest number of at-risk adolescents (Mazza, 1997). However, it has yet to be established that the focus of changing attitudes and knowledge and the attempt to impart skill building in relatively short periods of training can impact on the ultimate goal of these models -- decreasing the incidence of suicidal behavior (Berman and Jobes, 1991:Ch.6,p.235).

THE ISSUE OF EFFECTIVE PROGRAMS

Any critical review of the scientific literature and "best practices" reveals two major handicaps facing all who design, test, or implement youth suicide prevention programs. There is a dearth of empirical suicide prevention trials, and there is a dearth of empirical suicide treatment trials to guide our planning. These problems are not unique to the field of youth suicide prevention. The same can be said about the status of knowledge about suicide prevention and treatment for all other age groups.

Is there any evidence school-based youth suicide prevention programs are effective? Do good intentions and professional input guarantee that the programs are safe? Since the great majority of adolescents never make a suicide attempt in their entire lifetime, can existing suicide prevention programs educate the low-risk majority and "inoculate" the high-risk minority in one fell swoop?

Garland and her colleagues (1989) examined survey response data characterizing 115 youth suicide prevention programs with experience implementing school-based prevention curricula. Programs were identified in 34 states and the District of Columbia. On average, the programs had been in place for five years. The typical program reached 17 schools encompassing 1700 students during the 1986-87 school year. Forty-four percent of the programs were offered to children from elementary school all the way through high school; 98% were offered to high school students. Eighty-nine percent offered some form of training or education to school staff, and 71% included a program for parents. While most of the programs spent only one hour of direct contact time with students, 34% spent more than two hours.

Most programs covered facts about suicide, warning signs of suicide, mental health resources available to the students, and techniques for getting a troubled student in touch with help. The great majority of program (95%) reported that their theoretical approach was patterned after the "stress model," wherein "suicide is seen as a response to extreme stress, to which everyone is vulnerable." Only four percent subscribed to the view that suicide is typically a consequence of a mental disorder. The investigators warned that the prevailing assumptions (all youth are at risk for suicide and suicide is a result of overwhelming stress) are not supported well by available scientific evidence. Suicide rarely occurs in the absence of a documentable psychiatric illness. In 1997 Mazza conducted an extensive review on the effectiveness of eleven school-based suicide prevention programs. The principal goals of the reviewed programs were suicidal behavior education and identification of peers who may be at risk for suicide. Mazza believes that the prevention programs may have shown limited effectiveness because they targeted all students regardless of their previous behavior or current risk status rather than directing efforts toward those most at-risk for suicide. Furthermore, there is particular concern because several reports, cited in Mazza, have documented that adolescents who were at the greatest risk for future suicidal behavior showed increased levels of hopelessness, more maladaptive coping strategies, and less evaluative skills after the prevention programs were implemented. The implication is that the content focus of school-based suicide education programs should be on the nature of major psychiatric disorders associated with a risk for suicidal behavior and ways to access appropriate quality mental health treatment, rather than a specialized focus on suicide thinking or behavior per se.

Referring to evidence from other studies, Garland and colleagues argue that high-school students who have not been exposed to prevention programs already know about suicide warning signs and have "very reasonable and favorable attitudes about seeking help for suicide-related problems." The authors endorse efforts to educate and train school staff because the positive effects of these activities have been documented.

Garland and colleagues suggest that instead of continuing to devote so many resources to prevention programs that do not yet reach one percent of the U.S. high school population, it would be wiser to focus prevention efforts on youngsters known to be elevated risk for suicide: those struggling under the influence of mental disorder (e.g., major depression, alcohol or drug abuse, schizophrenia), those who have made suicide attempts before, and those recently exposed to a model of suicide. It is feasible to identify a large proportion of these high-risk individuals and tailor prevention efforts to their unique situations.

The authors conclude by recommending that school-based suicide prevention programs focus their efforts in three areas: (a) institute systematic psychological screening procedures to identify children and adolescents with symptoms including suicidal ideation; (b) teach children and adolescents how to recognize psychiatric symptoms in themselves; (c) change attitudes by encouraging children and adolescents to be more receptive to the idea of seeking help from adults.

Findings by Shaffer et al (1990) suggest that purely educational programs are not appropriate for identifying and reaching high-risk adolescents, show limited effectiveness in changing pathological attitudes among the small number of high-risk students who may be targeted by these programs, and may have untoward effects in not-at-risk students. Consistent with other data, these results suggested that techniques combining more efficient case identification of (treated or untreated) high-risk potential youth suicides with individualized evaluation and intervention would be the most beneficial (Blumenthal, 1990; Shaffer et al, 1990).

Zenere and Lazarus (1997) recently reported that a school district-wide suicide prevention and school crisis management program provided for five years to the fourth largest public school system in the United States (Dade County, Florida) had a positive influence on suicide death rates and suicide attempt rates over time. In the absence of any meaningful comparison group, however, it is difficult to accept the premise that the program had a direct impact on suicidal behavior. Other changes (e.g., accessibility or quality of health care, alcohol/drug use patterns) occurring in the county during the same period may account better or more directly for the decline in suicidual behavior.

A more recent review by Shaffer and Craft (1999) argues forcefully for the effectiveness of in-school self-administered screening programs. It involves systematic screening for the predictors of suicide in general high school populations. As a strategy for identifying teenagers at greatest risk for suicide, Shaffer writes that the careful employment of such a method would be both efficient and cost effective. The adoption of such a strategy would likely invovle the use of in-school professionals and requires a robust relationship with community-based mental health and substance abuse services.

In view of the history of suicide prevention programs and the information available as to their effectiveness, certain approaches to preventing and treating youth suicidal behavior are suggested. And, while applications pertaining to the following topics are encouraged, these topics should be considered illustrative, and not restrictive.

Programs designed specifically to screen for suicide risk factors and establish a comprehensive referral and follow-up system for youth at continued risk such as those who suffer from severe mental illness, including schizophrenia, major depression and bipolar disorders, obsessive-compulsive disorder, conduct disorder, as well as behavior disturbances, and/or SUD are needed.

A number of school-based suicide awareness and post-vention efforts have been developed, but few are

adequately evaluated to determine their effectiveness. The development and testing of theory driven, school-based preventive interventions for depression and SUD, with suicidality as a key outcome, are needed.

Programs that incorporate measures of suicidality in school-based interventions designed to reduce violence and aggressive behavior would add to the knowledge base of effective treatments for suicidality in youth.

THE ISSUE OF PROGRAM EVALUATION

Unless a suicide prevention program conceptualizes its central principles in a brief lucid paragraph, and unless the program operationalizes its procedures in an unambiguous and replicable manner, it remains difficult to figure out how suicide prevention programs A, B, and C overlap or differ. Unless a suicide prevention program tries to boil down its "active ingredients" into the fewest number of elements for the sake of parsimony, it remains difficult to figure out what elements work as planned and what elements do not. Unless a suicide prevention program defines its two or three principal outcome measures in easily measurable terms, it remains difficult to compare the results of otherwise similar programs. Unless a suicide prevention program employs some clever kind of comparison or random assignment strategy, it remains difficult to know whether a purported "success" can be taken seriously. Unless a suicide prevention program works with a semi-independent evaluation team, it remains difficult to distinguish between self-serving pride and genuine outcome evidence.

Perhaps then, the most widespread criticism of school-related suicide prevention programs surveyed is the absence of adequate evaluation: very few programs have included an evaluation component. Furthermore, those that did tended to emphasize skills learning rather than changes in the incidence of suicidal behavior. Thus, the effectiveness of the procedures used in school-based suicide prevention programs was not demonstrated empirically. Recommendations for methodologic assessment included (1) specific outcome goals should be established for target groups, (2) sound theories of suicide prevention must be operationalized and implemented in a manner that will allow the precise measurement of outcomes, and (3) experimental procedures such as the randomized assignment of subjects to various treatment conditions, the measurement of clinically relevant outcomes, long-term follow-up, and the clinical importance as well as statistical significance of the results must be assessed (Streiner and Adam, 1987; S&McD,1996:Ch.8,p.223).

In an effort to redress such shortcomings, CMHS strongly encourages applicants to partner with organizations and ind individuals with expertise in the process of planning and putting into place program and outcome evaluations that are based on scientific principals and are well-founded in the literature. Such partnering could take advantage of current efforts within NIMH to fund the evaluation of suicide prevention programs [see http://…] . Linkages between implementing and evaluation organizations combine the resources and expertise of a wide range of community members and permits an opportunity for program success that the two components, working separately, might never achieve.

A review of reliable and valid measures for youth suicidal behavior, as well as general guidelines for the development of informed consent, safety monitoring, crisis protocols, and adequate follow-up of suicidal persons are available at
http://www.nimh.nih.gov/research/suicide.htm.